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Aboriginal Peoples Technical Report, 2006 Census



Census year 2006



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Note of appreciation

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Aboriginal Peoples Technical Report, 2006 Census

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Introduction

The 2006 Census Technical Report: Aboriginal Peoples deals with: (i) Aboriginal ancestry, (ii) Aboriginal identity, (iii) Registered Indian status, and (iv) Band or First Nation membership. The report aims to inform users about the complexity of the data and any difficulties that could affect their use. It explains the conceptual framework and definitions used to gather the data, and it discusses factors that could affect data quality. The report covers data quality issues related to data capture, automated coding, as well as edit and imputation processes. The historical comparability of the data is also discussed.

The report is designed to help general as well as more advanced users make the most of census data on Aboriginal Peoples and to help users assess the usefulness of the data for their purposes.

There are two parts to the Report. This is the first part of this technical report. Further information and analysis will be released later in 2009. The second part of the technical report will include Chapter 3 and additional research on some of the data quality topics.

The Report has been prepared by Ida Trachtenberg, Rosalinda Costa and Ron Loder of the Social and Aboriginal Statistics Division, Colleen Clark and Peter Dick of the Social Survey Methods Division for the sections on Census Coverage. Pierre Gauvin and Eric Guimond of Indian and Northern Affairs Canada provided valuable advice and guidance on the preparations of this report that improved its content and readability. The support and guidance of Jane Badets, Cathy Connors, Nancy Zukewich and other members of the Social and Aboriginal Statistics Division, Linda Howatson-Leo of Census Subject Matter Secretariat, and the Social Survey Methods Division is noted with appreciation.

1 Concepts and variables

There are various ways to define the Aboriginal population based on the four related questions asked in the census [Aboriginal ancestry (ethnic origin), Aboriginal identity, member of an Indian Band/First Nation, Registered or Treaty Indian] depending on the focus and the requirements of the data user.

The definitions of census terms, variables and concepts are presented here and appear in the 2006 Census Dictionary - <http://www12.statcan.ca/english/census06/reference/dictionary/index.cfm> (Catalogue no. 92-566-XWE <http://www.statcan.ca/bsoic/english/bsoic?catno=92-566-X>). Users should refer to the *2006 Census Dictionary* for full definitions and additional remarks related to any concepts, such as information on direct and derived variables and their respective universe.

1.1 Census concepts

The four questions used on the census to identify Aboriginal peoples yield different concepts for defining different Aboriginal populations. Four commonly used concepts include:

- Aboriginal ancestry
- Aboriginal identity
- Band or First Nation membership
- Registered Indian status

The population counts from the 2006 Census using the different definitions are shown below.

Canada

Aboriginal ancestry ¹	1,678,200
Aboriginal identity (derived) ²	1,172,790
Band or First Nation membership	620,340
Registered Indian status	623,780

1.1.1 Aboriginal ancestry

Aboriginal ancestry refers to those persons who reported at least one Aboriginal ancestry (North American Indian, Métis or Inuit) to the ethnic origin question (Question 17). 'Ethnic origin' <http://www12.statcan.ca/english/census06/reference/dictionary/pop030.cfm> refers to the ethnic or cultural origins of the respondent's ancestors, an ancestor being usually more distant than a grandparent.

Information on the ethnic origins of the population has been collected in all but two national censuses since Confederation in 1867. Comparability of the ethnic origin data from the 2006 Census with previous censuses has been affected by several factors, including changes in the question format, wording, examples, instructions and data processing, as well as by the social environment at the time of the census. Changes in Aboriginal participation in the census over time may also affect comparability.

1. Included are single and multiple ancestry responses. A single ancestry response is when a respondent provides one Aboriginal ancestry only. A multiple response is given when a respondent provides two or more ancestries with at least one being an Aboriginal ancestry.

2. Included are persons who reported identifying with at least one Aboriginal group, and/or those who reported being a Treaty Indian or a Registered Indian, as defined by the *Indian Act* of Canada, and/or those who reported they were members of an Indian band or First Nation.

1.1.2 Aboriginal identity (single question)

Aboriginal identity refers to those persons who reported identifying with at least one Aboriginal group, that is, North American Indian, Métis or Inuit. Prior to the 1996 Census, counts for Aboriginal persons were arrived at using the ethnic origin question. The 1996 Census included a question on the individual's Aboriginal identity.

The 2006 Census Aboriginal identity question is the same as the one used in 1996 and 2001.

Caution should be exercised in analyzing trends for Aboriginal peoples based on previous census data. Over time, patterns in Aboriginal self-identification have changed. In recent years, a growing number of people who had not previously identified with an Aboriginal group are now doing so. Changes in the participation of First Nations people living on reserve in the census over time also affect historical comparison.

1.1.3 Member of an Indian band or First Nation

Member of an Indian band or First Nation refers to those persons who reported being a member of an Indian band or a First Nation of Canada. In 1991, band membership was a subcomponent of Question 16 on Registered Indian status.

In the first part of this question, respondents were asked about registration status, while the second part of the question dealt with band membership. In 1996, one direct question was developed to collect data on band/First Nation membership.

Many Indian bands choose to be referred to as a First Nation and have changed their band name to reflect this. Also, with the 1985 amendment to the *Indian Act* of Canada (commonly referred to as Bill C-31), many Indian bands exercised the right to establish their own membership code, whereby it was not always necessary for a band member to be a Registered Indian according to the *Indian Act*.

The 2006 Census question is the same as the one used in 1996 and 2001.

1.1.4 Registered Indian or Treaty Indian

Registered Indian or Treaty Indian refers to those persons who reported they were registered under the *Indian Act* of Canada. Treaty Indians are persons who are registered under the *Indian Act* and can prove descent from a band that signed a treaty. Although there was a question in the 1991 Census on registration status, the layout of the 1996 question was somewhat different. In 1991, Question 16 on Registered Indians had two components. In the first part of the question, respondents were asked about their registration status, while the second part of the question dealt with band membership. The question used in 1996 asked only for registration or treaty status, while band membership was dealt with in a separate question.

Additionally, the wording of the question, starting in 1996, differs slightly from the one in previous censuses. Prior to 1996, the term 'treaty' was not included in the question. It was added in 1996 at the request of individuals from the Western provinces, where the term is more widely used.

The 2006 Census question is the same as the one used in 1996 and 2001.

1.2 Derived concepts

1.2.1 Aboriginal Identity (derived)

The derived Aboriginal identity concept refers to those persons who reported identifying with at least one Aboriginal group, that is, North American Indian, Métis or Inuit, and/or those who reported being a Treaty Indian or a Registered Indian, as defined by the *Indian Act* of Canada, and/or those who reported they were members of an Indian band or First Nation. The Aboriginal identity population is derived from 3 questions (Questions 18, 20 and 21).

Included in the **derived Aboriginal identity population** are the following (see also Figure 1):

Total Aboriginal identity population

'North American Indian' response only

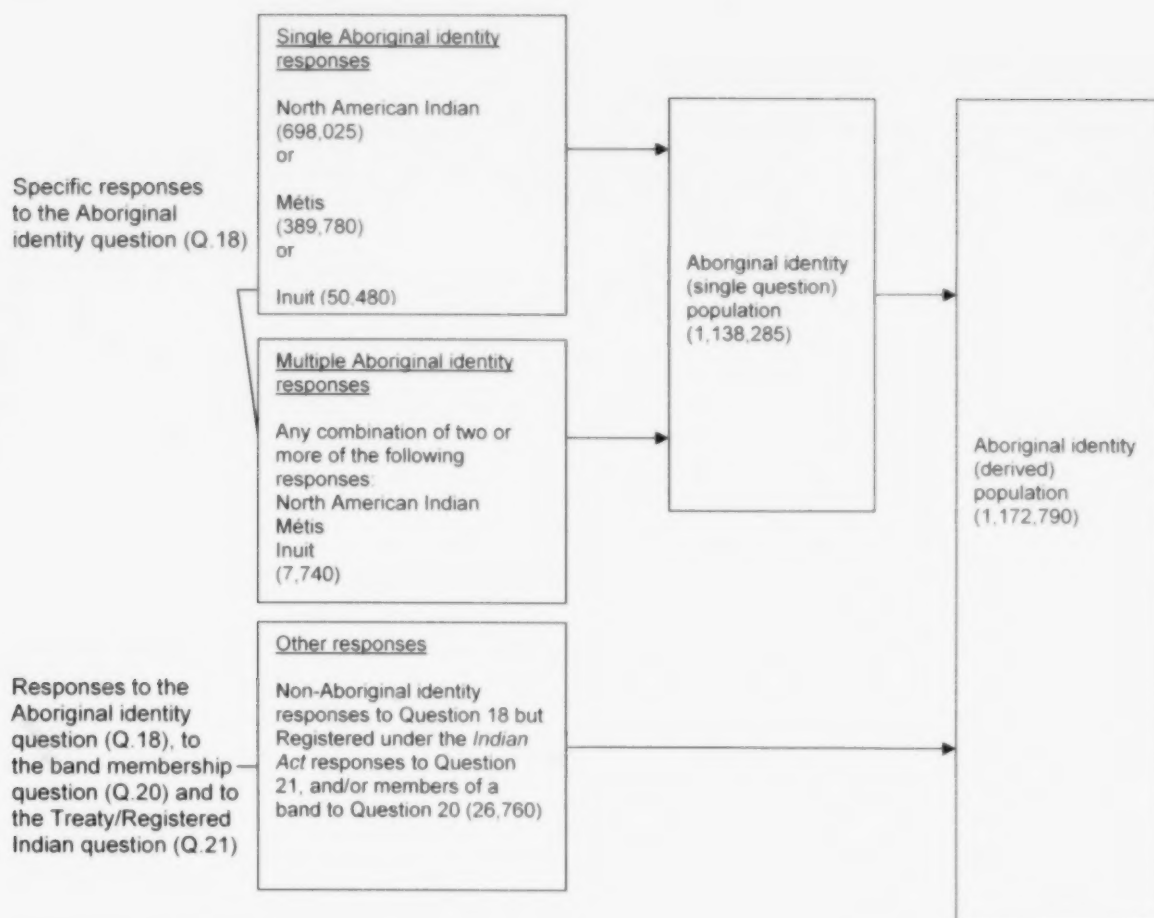
'Métis' response only

'Inuit' response only

Multiple Aboriginal responses

Aboriginal responses not included elsewhere (includes those who reported themselves as being Registered or Treaty Indians and/or band members without reporting Aboriginal identity)

Figure 1 Aboriginal identity population (2006 Census counts)



Source: Statistics Canada, 2006 Census.

1.2.2 Other possible derived concepts

It is possible to derive other definitions of the Aboriginal population using different combinations of the census questions. For example, the information from Question 18 on Aboriginal identity and Question 21 on Treaty/Registered Indian status can be used to derive the First Nations (North American Indian) identity population with Registered Indian status.

Other examples are:

- First Nations (North American Indian) identity population without Registered Indian status (non-status)
- First Nations (North American Indian) identity population with Indian band membership
- Registered Indian population with Indian band membership.

Users can define their population of interest according to their information and data needs and purposes for which the data are used.

1.3 Geographic concept – 'On reserve'

Census subdivision (CSD) types associated with 'on reserve' population

The 'on reserve' population is a derived census variable that is captured by using the census subdivision (CSD) type according to criteria established by Indian and Northern Affairs Canada (INAC).

The 'on reserve' population includes all people living in any of eight CSD types legally affiliated with First Nations or Indian bands (described below), as well as selected CSDs of various other types that are northern communities in Saskatchewan, the Northwest Territories and the Yukon which have large concentrations of Registered Indians. 'On Reserve' includes legally defined Indian reserves, Indian settlements, other land types created by the ratification of Self-Government Agreements and other northern communities affiliated with First Nations, according to the criteria established by Indian and Northern Affairs Canada.

Census subdivision (CSD) is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements and unorganized territories).

Users should refer to the *2006 Census Dictionary* for more information on census subdivision types associated with the 'on reserve' population as well as other geographic concepts.
<http://www12.statcan.ca/english/census06/reference/dictionary/geo012.cfm>

2 Data collection

2.1 General

Under the *Statistics Act*, Statistics Canada is responsible for conducting the Census of Population of Canada. Therefore, each person who receives a census questionnaire is legally obligated to provide the information requested about their household.

The census enumerates the entire population of Canada, which consists of Canadian citizens, landed immigrants, and non-permanent residents along with their family members living with them. This includes all Aboriginal people living both on and off reserve.

The census is considered a *de jure* census as it enumerates people where they usually or typically reside rather than where they physically happen to be on Census Day. This means that people outside the country on Census Day are enumerated if their usual or normal place of residence was back in Canada. This includes federal and provincial government employees working outside Canada, Canadian embassy staff posted to other countries, members of the Canadian Armed Forces stationed abroad and all Canadian crew members of merchant vessels.

2.1.1 Collection

The census information is collected either from 100% of the population or on a 20% sample basis (from a random sample of one in five households) with the data weighted up to provide estimates for the entire population. For any given geographic area, the weighted population, household, dwelling or family total or subtotal may differ from that shown in reports containing data collected on a 100% basis. Such variation (in addition to the effect of random rounding) will be due to sampling. Note that, on Indian reserves and in remote areas, most data were collected on a 100% basis.

To ensure the best possible coverage, the country is divided into small geographic areas called collection units (CUs) with a census representative responsible for at least one CU. For the 2006 Census, there were 50,782 collection units throughout Canada.

2.1.1.1 Forms and questionnaire types

The Census of Canada uses different forms and questionnaires to collect data from Canadians. The questionnaire type, as well as the location and collection method are presented below in Table 1.

The Form 1 is called a Visitation Record (VR) which is used to list every occupied and unoccupied private dwelling, collective dwelling, agricultural operation and agricultural operator in the enumeration area. The VR serves as an address listing for field operations and control purposes for census collection.

The Form 2A (short questionnaire) contains 10 questions and is distributed to 80% of private dwellings in mail-back areas.

The Form 2B is a long questionnaire that collects the same information as the Form 2A plus additional information on a variety of topics including Aboriginal ancestry, Aboriginal identity, Band/First Nation membership and Registered Indian status. It is used to enumerate 20% of all private dwellings in mail-back areas.

The Form 2C is a long questionnaire similar to the Form 2B and it is used to enumerate people posted outside Canada, including Canadian government employees (federal and provincial) and their families, and members of the Canadian Armed Forces and their families. It is also used to enumerate all other Canadian citizens, landed immigrants and non-permanent

residents outside Canada who request to be enumerated.

The Form 2D is the Northern and Reserves Questionnaire. It is a long questionnaire similar to the Form 2B used to enumerate the Yukon, the Northwest Territories (with the exception of Whitehorse and Yellowknife), Nunavut, and Indian reserves, Indian settlements, Indian government districts and '*terres réservées*'. In 2006, there were some areas where there are non-Aboriginal households on leased Aboriginal land and these would not receive the 2D questionnaire. The questions asked on the Form 2D questionnaire are the same as on the 2B questionnaire, but the examples, where provided for write-in responses, include more Aboriginal groups listed in the ethnic origin/ancestry question, and industries or occupations more commonly found in the North. Examples for the education questions are also geared to the Aboriginal population living in these areas.

The Form 3A and 3B are used to enumerate persons in a collective dwelling (each person in the collective dwelling would complete a separate Form 3). They are also used to enumerate usual residents in a private household (e.g., roomers, lodgers, boarders) who prefer to be enumerated on their own census questionnaire rather than be included on a 2A or 2B questionnaire. Form 3A is the short individual census questionnaire used to enumerate usual residents and live-in staff members using information from administrative records. The Form 3B is the long individual census questionnaire and it is also used in self-enumeration in collective dwellings, to enumerate usual residents and live-in staff members.

Residents of institutions such as detention facilities, hospitals, residences for senior citizens, orphanages or prisons are enumerated using the institution's administrative records. To be enumerated, residents must have lived at the facility for at least six months. Otherwise, the resident is counted at their regular place of residence. Only basic data were collected for all residents of institutions : age, sex, marital status and mother tongue. The Aboriginal questions on the 2B/2D questionnaire are not asked of residents of institutions.

Prior to Census Day, Statistics Canada developed lists of shelters to identify homeless shelters as distinct from other types of collective dwellings. In shelters and similar facilities, the eight short form questions were completed using administrative records, where possible. These are the same questions that were answered by every Canadian. In all cases, age and sex was noted. The Aboriginal questions on the 2B/2D questionnaire are not asked of homeless people.

A Form 4 is completed by census staff in situations where households were absent or dwellings were unoccupied on Census Day. The Visitation Record indicates which census questionnaire was completed and if no questionnaire is completed then Form 4 would indicate the reason for the non completion.

Table 1 Location and collection method for the 2006 Census questionnaires

Questionnaire type	Collection method	Location of questionnaire use
Form 2A Short form	(1) Self-Enumeration (2) Internet	Received by 80% of households throughout Canada.
Form 2B Long form	(1) Self-Enumeration (2) Internet	Received by 20% of households throughout Canada.
Form 2C Long form	Self-Enumeration	Used to enumerate people posted outside Canada including Canadian government employees (federal and provincial) and their families, and members of the Canadian Armed Forces and their families, as well as all other Canadian citizens and landed immigrants and non-permanent residents outside Canada who request to be enumerated.
Form 2D Long form	Canvasser Method	Used to enumerate the Yukon, the Northwest Territories (with the exception of Whitehorse and Yellowknife), Nunavut, and Indian reserves, Indian settlements, Indian government districts and 'terres réservées'.
Form 3A Short form	Combination of the Canvasser Method and Self-Enumeration	Used in private dwellings enumerated on Form 2A, to enumerate usual residents who wish to be enumerated in private dwellings (e.g., roomers, lodgers, boarders). It is also used in collective dwellings enumerated from administrative records, to enumerate usual residents and live-in staff members.
Form 3B Long form	Combination of the Canvasser Method and Self-Enumeration	Used in private dwellings enumerated on Form 2B, to enumerate usual residents who wish to be enumerated in private (e.g., roomers, lodgers, boarders). It is also used in self-enumeration collective dwellings, to enumerate usual residents and live-in staff members.

Source: Statistics Canada, 2006 Census.

2.1.1.2 Official languages

Eighty percent of all households received a questionnaire package containing both an English and a French short form. The remaining 20% of households received a questionnaire package with either one unilingual long-form questionnaire or both official language versions of the long-form questionnaire.

Households requiring an alternative English or French questionnaire could either contact the Census Help Line or complete the questionnaire online in the official language of their choice.

2.1.1.3 Aboriginal languages

The Census of Population Form 2D questionnaire was used to enumerate Aboriginal communities on Indian reserves and to conduct the early northern census (early enumeration). To assist people whose first language was neither English nor French, the census questions were translated into 18 Aboriginal languages. The 2D questionnaire was made available in the following languages:

Atikamekw (Manawan-Wemotaci)
 Atikamekw (Opitciwon)
 Blackfoot
 Cree (Quebec)
 Dakota/Sioux
 Dene (Dogrib)
 Innuinaqtun
 Inuktitut (Labrador)
 Inuktitut (Nouveau-Québec)
 Inuktitut (Nunavut)
 Inuvialuktun

Mi'kmaq
 Montagnais
 Naskapi
 Ojibway
 Oji-Cree
 Plains Cree
 Swampy Cree

2.1.1.4 Delivery of questionnaires

In 2006, about 98% of households were enumerated using self-enumeration. The remaining 2% of households were enumerated using the canvasser method. Canvassing is used in cases where the population is very small, and sampling (that is, collecting information from a small part of the population and using the results to represent the whole) may not produce reliable information. On Indian reserves and settlements and in northern and remote areas each household receives a long questionnaire, and the interview was conducted by an enumerator.

In self-enumerated households, people were asked to complete the questionnaire for themselves and for members of their household and return it either online or in the postage paid yellow envelope by May 16, 2006 Census Day.

2.1.1.5 New for 2006 Census: The online questionnaire and other changes

The 2006 Census provided households which were self-enumerated with the option of completing their questionnaire online and sending it back electronically or mailing it back in preaddressed, postage paid envelope. This was the first time that the Internet option was available.

Each paper questionnaire had a unique Internet access code printed on the front page along with the 2006 Census website address (www.census2006.ca). Respondents needed this access code in order to complete their questionnaire online. The census web application generated a confirmation number that the respondent was to retain as a proof of completion of the census questionnaire over the Internet.

By the end of August 2006, 18.5% of Canadian households took advantage of the first-ever opportunity to complete their census questionnaire on the Internet.

For more information see:

http://www12.statcan.ca/census-recensement/2006/ref/info/online-en_ligne-eng.cfm.

Changes for 2006 included a new question, designed to lower respondent burden, on the long form seeking permission for Statistics Canada to use data from income tax records. The percentage of consenting records found in the database was 89.1%.

For more information see:

<http://www12.statcan.ca/census-recensement/2006/ref/info/income-revenu-eng.cfm>.

Questions on education (on the long form) were also re-worded to improve response quality, and a new question on location of study was added.

Both the short and long forms contained a new question asking whether the respondent would permit Statistics Canada to make their personal information publicly available in 92 years for historical and genealogical research. Nationally, 56% of Canadians chose to make their personal information publicly available in 92 years. For more information see:

<http://www12.statcan.ca/census-recensement/2006/ref/about-apropos/gen-rslt92ques-eng.cfm>.

2.1.2 Early enumeration

In remote areas, the census was conducted in February and March of 2006 to enumerate people before they migrated to hunting and fishing camps. In these areas, the census was conducted by personal interview using the 2D questionnaire. In addition to training staff earlier for early enumeration, Field Operations Supervisors coordinated with local First Nation and Inuit leaders in order to carry out the early enumeration.

2.2 Questions and instructions for Aboriginal ancestry, Aboriginal identity, Registered Indian or Treaty Indian, and Indian band/First Nation membership

The Census Guide, which is separate from the questionnaire, contains instructions and examples to help respondents answer each census question as accurately as possible. Also included are reasons why questions are asked and how the information respondents provide is used.

An adult was asked to complete the questionnaire for all members of the household. This person is referred to as Person 1.

It is the responsibility of Person 1 to enter information for all persons who usually live in the household, including all children, co-tenants, roomers, children who live elsewhere when in school, children under joint custody who live in the dwelling most of the time, and persons who usually live in the dwelling but have been living in an institution such as a hospital, residence for senior citizens or prison for less than six months.

The questions and instructions on the 2B and 2D census questionnaires are provided below:

Ethnic origin/ancestry – Question 17

The following information was provided to respondents in the 2B Census Guide and the 2D interviewer field manual.

This question refers to the ethnic or cultural origins of a person's **ancestors**. An ancestor is someone from whom a person is descended and is usually more distant than a grandparent. Other than Aboriginal persons, most people can trace their origins to their ancestors who first came to this continent. Ancestry should not be confused with citizenship or nationality.

For all persons, report the specific ethnic or cultural groups to which their ancestors belonged, not the language they spoke. For example, report 'Haitian' rather than 'French,' or 'Austrian' rather than 'German.'

For persons of **East Indian** or **South Asian** origins, report a specific origin or origins. Do not report 'Indian.' For example, report 'East Indian from India,' 'East Indian from Guyana,' or indicate the specific group, such as 'Punjabi' or 'Tamil.'

For persons with **Aboriginal** ancestors, report a specific origin or origins. For example, report 'Cree,' 'Micmac,' 'Ojibway,' 'North American Indian,' 'Métis.' Do not report 'Indian.'

The ethnic origin question in the 2006 Census long questionnaire (Form 2B) reads as follows:

Figure 2 2006 Census – Question 17, Form 2B

<p><i>The census has collected information on the ancestral origins of the population for over 100 years to capture the composition of Canada's diverse population.</i></p> <p>17 What were the ethnic or cultural origins of this person's ancestors?</p> <p><i>An ancestor is usually more distant than a grandparent.</i></p> <p><i>For example, Canadian, English, French, Chinese, Italian, German, Scottish, East Indian, Irish, Cree, Mikmaq (Micmac), Métis, Inuit (Eskimo), Ukrainian, Dutch, Filipino, Polish, Portuguese, Jewish, Greek, Jamaican, Vietnamese, Lebanese, Chilean, Salvadorean, Somali, etc.</i></p>	<p><i>Specify as many origins as applicable using capital letters.</i></p> <p>FOR INFORM</p>
--	---

Note that while the ancestry question asked in the 2006 Census Form 2D (below) is the same as that asked in the Form 2B, the list of examples are different.

Figure 3 2006 Census – Question 17, Form 2D

<p><i>The census has collected information on the ancestral origins of the population for over 100 years to capture the composition of Canada's diverse population.</i></p> <p>17 What were the ethnic or cultural origins of this person's ancestors?</p> <p><i>An ancestor is usually more distant than a grandparent.</i></p> <p><i>For example, Cree, Ojibway, Mikmaq (Micmac), Dene, Blackfoot, Inuit, Métis, Canadian, French, English, German, etc.</i></p>	<p><i>Specify as many origins as applicable using capital letters.</i></p> <p>FOR INFORM</p>
--	---

From 1981 to the present, Aboriginal ancestry has been defined by descent from both the mother's and the father's side. The ethnic origin question has allowed for the reporting of single and multiple responses.

Aboriginal identity – Question 18

The following information was provided to respondents in the 2B Census Guide and the 2D Interviewer Field Manual.

Answer this question regardless of whether this person is an Aboriginal person of North America.

Persons with Aboriginal Identity are usually those with ancestors who resided in North America prior to European contact and who identify with one of the three Aboriginal groups listed on the questionnaire.

Persons who consider themselves to be East Indian or Asian Indian, or who have ethnic roots on the subcontinent of India, would normally respond **No** to this question.

Individuals who refer to themselves as Métis in the context of mixed ancestry but who do not have North American Aboriginal ancestry – for example, those from Africa, the Caribbean and South America – would normally respond **No**.

In 2006, the Aboriginal identity question was identical to that asked in 2001 and 1996. This question reads as follows:

Figure 4 2006 Census – Question 18, Form 2B

<p>18 Is this person an Aboriginal person, that is, North American Indian, Métis or Inuit (Eskimo)?</p> <p><i>If "Yes", mark "X" the circle(s) that best describe(s) this person now.</i></p>	<p><input type="radio"/> No → Continue with the next question</p> <p><input type="radio"/> Yes, North American Indian</p> <p><input type="radio"/> Yes, Métis</p> <p><input type="radio"/> Yes, Inuit (Eskimo)</p> <p style="text-align: right;">Go to Question 20</p>
--	--

Note that while the identity question asked in the 2006 Census Form 2D is the same as that asked in the Form 2B, the term 'Eskimo' is not included as part of the question.

Indian band/First Nation membership – Question 20

The following information was provided to respondents in the 2B Census Guide and the 2D Interviewer Field Manual.

An Indian band/First Nation is a group of persons for whom lands have been set apart and money is held by the Crown. A band member is an individual who is recognized as being a member of a band as defined by either the band itself or the *Indian Act*.

Individuals should report their Band/First Nation affiliation rather than their Tribal affiliation (for example, 'Chemawawin First Nation band' instead of 'Cree').

Question 20, the Indian band/First Nation membership question in the 2006 Census long questionnaire (Form 2B and Form 2D) reads as follows:

Figure 5 2006 Census – Question 20, Form 2B

<p>20 Is this person a member of an Indian Band/First Nation?</p>	<p><input type="radio"/> No</p> <p><input type="radio"/> Yes, member of an Indian Band/First Nation</p> <p>Specify Indian Band/First Nation ▼ (for example, Musqueam)</p>
--	---

Registered or Treaty Indian – Question 21

The following information was provided to respondents in the 2B Census Guide and the 2D Interviewer Field Manual.

Mark the circle **Yes** for persons who:

- are registered as Indians under the *Indian Act*
- are Treaty Indians, **only** if they are registered as Indians under the *Indian Act*
- have become registered as Indians since June 1985 when Bill C-31 changed the *Indian Act*.

All other persons should mark **No**, including persons who may be entitled to register under provisions of the *Indian Act*, but for some reason have not.

Figure 6 2006 Census – Question 21, Forms 2B and 2D

<p>21 Is this person a Treaty Indian or a Registered Indian as defined by the <i>Indian Act</i> of Canada?</p>	<p><input type="radio"/> No</p> <p><input type="radio"/> Yes, Treaty Indian or Registered Indian</p>
---	--

3 Data processing (To be available later in 2009 in Part 2 of the Report)

Data processing covers all steps from receipt and registration of the paper questionnaires to the assignment of weights (which are used to project the information gathered from the 20% sample to the entire population). Chapter 3 presents this information in general terms as well as giving specific details on the processing of Aboriginal data, specifically edit and imputation (the correction of missing or inconsistent data) for Questions 18, 20 and 21.

4 Dissemination

4.1 Standard table symbols

The symbols described in this document apply to all data published by Statistics Canada from all origins including surveys, censuses and administrative sources, as well as straight tabulations and all estimations.

The standard table symbols <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm> apply to all data published by Statistics Canada:

- Symbol legend <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#1#1>
- Definitions <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#2#2>
- Data quality symbols <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#3#3>
- Data analysis symbols <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#4#4>
- Symbols no longer in use <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#5#5>
- Presentation <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#6#6>
- Formatting symbols for paper publications <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#7#7>
- Formatting symbols for electronic publications <http://www.statcan.ca/english/concepts/definitions/guide-symbol.htm#8#8>

4.2 Data presentation

Aboriginal census data can be found on the census website at the following links:

2006 Census <http://www12.statcan.ca/english/census06/data/index.cfm>

Highlight tables, 2006 Census <http://www12.statcan.ca/english/census06/data/highlights/index.cfm>

Topic-based tabulations, 2006 Census

<http://www12.statcan.ca/english/census06/data/topics/index.cfm>

Profiles at each level of geography, 2006 Census

Cumulative profile and release components

<http://www12.statcan.ca/english/census06/data/profiles/release/Index.cfm>

Print profile series (\$)

2006 Community Profiles

<http://www12.statcan.ca/english/census06/data/profiles/community/Index.cfm?Lang=E>

Census Tract (CT) Profiles, 2006 Census

<http://www12.statcan.ca/english/census06/data/profiles/ct/Index.cfm?Lang=E>

Aboriginal Population Profile, 2006 Census

<http://www12.statcan.ca/english/census06/data/profiles/aboriginal/Index.cfm?Lang=E>

Federal electoral district (FED) profile <http://www12.statcan.ca/census-recensement/2006/dp-pd/prof/92-595/p2c.cfm?TPL=INDX&LANG=E>

Special interest profiles <http://www12.statcan.ca/english/census06/data/profiles/sip/Index.cfm>

Census Trends, 2006 Census

<http://www12.statcan.ca/english/census06/data/trends/index.cfm>

2001 Census <http://www12.statcan.ca/english/census01/Products/Standard/Index.cfm>

Highlight Tables, 2001 Census

<http://www12.statcan.ca/english/census01/products/highlight/Index.cfm>

Topic-based Tabulations, 2001 Census

<http://www12.statcan.ca/english/census01/products/standard/themes/index.cfm>

Profiles at each level of geography, 2001 Census

<http://www12.statcan.ca/english/census01/products/standard/profiles/index.cfm>

1996 Census <http://www12.statcan.ca/english/census01/info/census96.cfm>

The Nation Tables <http://www.statcan.ca/english/census96/nation.htm>

Profiles at each level of geography, 1996 Census

<http://www12.statcan.ca/english/census01/info/census96.cfm>

Users should use caution when comparing 2006 Census data with previous census years. Please see section 6.1 on historical comparability for more information.

5 Data quality measurement

5.1 General

The 2006 Census was a large and complex undertaking and, while considerable effort was taken to ensure high standards throughout all collection and processing operations, the resulting Census estimates are inevitably subject to a certain degree of error. Users of census data should be aware that such error exists, and should have some appreciation of its main components, so that they can assess the usefulness of census data for their own purposes.

5.2 Sources of error and evaluation studies

For census data in general, the principal types of error are as follows: coverage errors, non-response errors, processing errors, sampling errors.

Coverage errors occur when dwellings or individuals are missed, incorrectly enumerated or counted more than once.

Non-response errors result when responses cannot be obtained from a certain number of households and/or individuals, because of extended absence or some other reason or when responses cannot be obtained from a certain number of questions in a complete questionnaire.

Response errors occur when the respondent, or sometimes the census representative, misunderstands a census question, and records an incorrect response or simply uses the wrong response box.

Processing errors can occur at various steps including coding, when 'write-in' responses are transformed into numerical codes; data capture, when responses are transferred from the census questionnaire to an electronic format, by optical character recognition methods or key-entry operators; and imputation, when a 'valid', but not necessarily correct, response is inserted into a record by the computer to replace missing or 'invalid' data ('valid' and 'invalid' referring to whether or not the response is consistent with other information on the record).

Sampling errors apply only to the supplementary questions on the 'long form' asked of a one-fifth sample of households, and arise from the fact that the responses to these questions, when weighted up to represent the whole population, inevitably differ somewhat from the responses which would have been obtained if these questions had been asked of all households. (This issue of sampling errors would not apply in the case of reserves, and remote and northern communities as all households receive the 'long form' (2D) questionnaire.)

For more information on data quality and sources of error, see:
<http://www12.statcan.ca/english/census06/reference/dictionary/app002.cfm>.

For more information on data quality verification in place for the 2006 Census, see:
<http://www12.statcan.ca/english/census06/reference/qualityver.cfm>.

5.3 Data quality and data suppression

Data disseminated by the census are subjected to a variety of automated and manual processes to determine whether the data needs to be suppressed. This is done primarily for two reasons: (1) to ensure non-disclosure of individual respondent identity and characteristics ('confidentiality') and (2) to limit the dissemination of data of unacceptable quality (data quality).

5.3.1 Random rounding and area suppression

Random rounding is used to prevent the possibility of associating statistical data with any identifiable individual. Under this method, all figures, including totals and margins, are randomly rounded either up or down to a multiple of '5', and in some cases '10.'

For 2A (100%) data, all counts are rounded to a base of 5. This means that all 2A counts will end in either 0 or 5. The random rounding algorithm employed controls the results and rounds the unit value of the count according to a pre-determined frequency. The table below shows those frequencies. Note that counts ending in 0 or 5 are not changed and remain as 0 or 5.

Table 2 Random rounding frequency (100% data)

Unit values of	Will round to count ending in 0	Will round to count ending in 5
1	4 times out of 5	1 time out of 5
2	3 times out of 5	2 times out of 5
3	2 times out of 5	3 times out of 5
4	1 time out of 5	4 times out of 5
5	Never	Always
6	1 time out of 5	4 times out of 5
7	2 times out of 5	3 times out of 5
8	3 times out of 5	2 times out of 5
9	4 times out of 5	1 time out of 5
0	Always	Never

Source: Statistics Canada, 2006 Data quality and confidentiality standards and guidelines (public).

2B (20%) data require a slightly different random rounding algorithm. All counts greater than 10 are rounded to base 5, as is done for 2A data. Counts less than 10 are rounded to base 10. This means that any 2B counts less than 10 will always be changed to 0 or 10. The table below shows the effect of rounding on 2B counts with a value less than 10.

Table 3 Random rounding frequency (20% sample data)

Count of	Will round to 0	Will round to 10
1	9 times out of 10	1 time out of 10
2	8 times out of 10	2 times out of 10
3	7 times out of 10	3 times out of 10
4	6 times out of 10	4 times out of 10
5	5 times out of 10	5 times out of 10
6	4 times out of 10	6 times out of 10
7	3 times out of 10	7 times out of 10
8	2 times out of 10	8 times out of 10
9	1 time out of 10	9 times out of 10
0	Always	Never

Source: Statistics Canada, 2006 Data quality and confidentiality standards and guidelines (public).

In addition to random rounding, **area suppression** has been adopted to further protect the confidentiality of individual responses.

Area suppression is the deletion of all characteristic data for geographic areas with populations below a specified size.

The specified population size for all standard areas or aggregations of standard areas is 40, except for blocks, block-faces or postal codes. (A block-face is generally one side of a city street between two consecutive intersections; it is also the smallest geographic unit available from Statistics Canada.) Consequently, no characteristics or tabulated data are to be released for areas below a population size of 40, but are included at higher levels of geography. The population and dwelling counts are not suppressed for these small areas.

The suppression is implemented for all products involving subprovincial data (i.e., Profile series, basic summary tabulations, semi-custom and custom data products) collected on a 100% or 20% sample basis.

In all cases, suppressed data are included in the appropriate higher aggregate subtotals or totals.

5.3.2 Incompletely enumerated areas

Some Indian reserves and settlements did not participate in the census as enumeration was not permitted, or it was interrupted before completion. In 2006, there were 22 incompletely enumerated reserves, down from 30 in 2001 and 77 in 1996. Data quality rules require these non-enumerated areas to be identified and excluded from products. The data are not available for these reserves.

For more information on incompletely enumerated reserves see:

<http://www12.statcan.ca/census-recensement/2006/ref/notes/aboriginal-autochtones-eng.cfm>

5.3.3 Data quality index and global non-response

A **data quality index** based on a global non response rate is calculated for all CSDs to reflect the level of quality. The global non-response rate is the percentage of required responses left unanswered by the respondents.

Global response rates are determined for each of the census geographic areas. These areas are flagged on the database according to the non-response rate. Geographic areas with a non-response rate higher than or equal to 25% are suppressed from tabulations. Geographic areas with a global non-response rate higher than or equal to 5% and lower than 25% are not suppressed and are broken into two categories and are flagged according to the following ranges: falling between 5% and 10% and falling between 10% and 25%.

Tabulations for which the data quality index is greater than or equal to 5% but less than 25% are to be used with caution. Only population and dwelling counts are released for the geographical areas (CSDs) for which the data quality index is greater than or equal to 25%. However, the additional census characteristics data are included in all higher geographic level tabulations. This means that while census characteristics are not published for these individual CSDs, they would be counted in the estimates at the provincial or national level.

Geographical areas with no data quality index shown have a global non-response rate lower than 5%.

For more information on data quality indicators see:

<http://www12.statcan.ca/census-recensement/2006/ref/notes/DQ-QD/DQPractices-QDPratiques-eng.cfm?#DQflags>

http://www12.statcan.ca/census-recensement/2006/ref/notes/DQ-QD/Appendix_B-Annexe_B-eng.cfm.

5.3.4 Citizenship and immigration data

Persons living on Indian reserves and Indian settlements who were enumerated with the 2006 Census Form 2D questionnaire were not asked the questions on citizenship and immigration. Consequently, the citizenship and immigration data are not available for Indian reserves and settlements.

For more information on Indian reserves and Indian settlements for which citizenship, landed immigrant status and period of immigration data are suppressed see:

<http://www12.statcan.ca/census-recensement/2006/ref/notes/DQ-QD/reserves-eng.cfm>.

5.3.5 Suppression of income data

Income distributions and related statistics are suppressed if the non-institutional population in the area population from either the 100% or 20% databases is less than 250 persons or if the number of private households is less than 40.

5.3.6 Data quality and 'on reserve' communities

In general, the Census has been able to obtain accurate population and dwelling counts and to maintain high response rates to census questions for all geographic areas in Canada. However, some census subdivisions (CSDs), including some Indian reserves, have high non-response rates for some census questions despite the fact that accurate population and dwelling counts were obtained. More discussion on response rates will be available in Part 2 of the Report.

5.3.6.1 Population and dwelling counts

Population and dwelling counts are available at all geographic levels except for the incompletely enumerated Indian reserves and settlements (22). The population and dwelling counts are available for all participating 'on reserve' communities.

The availability of population and dwelling counts applies to 'on reserve' communities for which other census characteristics data may be suppressed such as:

- the 'on reserve' communities (census subdivisions) for which the data quality index is greater than or equal to 25%
- the 'on reserve' communities where the population size is less than 40.

5.3.6.2 Census data from the core (2A short form) and detailed (2B/2D long form) questions

The global non-response is calculated for both the core set of questions (2A questions 1 to 8) and the remainder of the questions that comprise the long census questionnaire (2B/2D). The data quality index may be different for the two sets of questions.

For example, the community may have a global non-response rate lower than 5% for the core set of 2A questions and a global non-response rate 25% or higher for the detailed, larger set of 2B/2D

questions. In this example, the core 2A data would be available for the community. As mentioned previously in section 5.3.3, the additional 2B/2D data would only be included in all higher geographic level (provincial and national) tabulations.

Core questions – (2A short census form)

The core set of 2A questions includes eight questions on basic topics such as relationship to Person 1, age, sex, marital status, and mother tongue.

Detailed questions – (2B/2D long census form)

The additional questions found on the 2B/2D questionnaire include 45 questions on topics such as Aboriginal identity, Aboriginal ancestry (ethnic origin), education, mobility, income and employment.

Data availability for 'on reserve' communities

The tables which follow summarize and show the number of communities defined as 'on reserve' for which data are available.

Different levels of data availability are shown, ranging from the full set of data being available (population and dwelling counts, 2A and 2B/2D data) to no data for the incompletely enumerated.

Table 4 Data availability for 'on reserve' communities¹, 2006 Census

Data Available	Total reserve communities
Population size is greater than 40	
Full data	
Full data – population and dwelling counts, core data and detailed characteristics data	575
Partial data	
Partial data – population and dwelling counts, core data only	34
Partial data – population and dwelling counts, detailed characteristics data only	4
Population and dwelling counts only	68
Population size is less than 40²	
Population and dwelling counts only	184
Incompletely enumerated – data not available	22
Total communities – inhabited	887

Total communities - uninhabited 289

Total communities 1,176

Notes:

1. 'On reserve' communities – see section 1.3 for definition
2. Population size is less than 40 – the detailed data are suppressed for reasons of confidentiality, not data quality

Source: Statistics Canada, 2006 Census.

For more information on census subdivision types and selected census subdivisions associated with 'on reserve' population, see:

<http://www12.statcan.ca/english/census06/reference/dictionary/geo012.cfm>.

For more information on census subdivisions (communities) for which 2A data or 2B/2D data are suppressed see:

http://www12.statcan.ca/census-recensement/2006/ref/notes/sup_CSD2B-SDR2B-eng.cfm

http://www12.statcan.ca/census-recensement/2006/ref/notes/sup_CSD2A-SDR2A-eng.cfm.

Table 5 Data availability for 'on reserve' communities¹, 1996, 2001, 2006 censuses

Data available	1996		2001		2006	
	Number	%	Number	%	Number	%
Population size is greater than 40						
Full data						
Full data – population and dwelling counts, 2A core data and 2D detailed characteristics data	561	65.3	597	67.8	575	64.8
Partial data						
Partial data – population and dwelling counts, 2A core data only	2	0.2	25	2.8	34	3.8
Partial data – population and dwelling counts, 2D detailed characteristics data only	4	0.5
Population and dwelling counts only	10	1.2	39	4.4	68	7.7
Population size is less than 40²						
Population and dwelling counts only	209	24.3	190	21.6	184	20.7
Incompletely enumerated - data not available	77	9.0	30	3.4	22	2.5
Total communities - inhabited	861	100.0	881	100.0	887	100.0

.. not available for a specific reference period

Notes:

1. 'On reserve' communities – see section 1.3 for definition
2. Population size is less than 40 – the detailed data are suppressed for reasons of confidentiality, not data quality

Source: Statistics Canada, 2006, 2001 and 1996 censuses.

The comparison of data availability across the 3 census years should be done with caution. There have been changes in methodology over time which could affect the calculation of global non-response rates and would limit their comparability over time.

Consideration of additional factors and analysis are needed for a fuller understanding of data availability and quality. More research is being done and results will be available in Part 2 of this technical report.

The preliminary analysis shows that overall, when all groupings of data availability are considered, the data available for 'on reserve' communities has increased over time. The proportion of 'on reserve' communities for which full or partial data are available across all groupings has increased from 90.9% (1996) to 97.5% (2006). Most of the increase (5.6%) occurred from 1996 to 2001, and there was a small increase (1%) from 2001 to 2006.

As was noted earlier, there were 22 incompletely enumerated reserves in 2006, down from 30 in 2001 and 77 in 1996. The increase in the data availability, considering all groupings from 1996 to 2001 may be the result of the reduction in the number of incompletely enumerated reserves. In other words, the increase in the reserves for which there are full/partial data could be from reserves where there was previously no data. The proportion of reserve communities for which no data are available (incompletely enumerated reserves) decreased from 9.0% in 1996 to 2.5% in 2006. For a fuller understanding of the increases and decreases, it is important to examine more closely the shifts in data availability for reserves over time. This will be examined in Part 2 of the Technical Report.

The analysis also shows the following for the different data availability groupings:

The proportion of reserves for which the complete set of data are available has gone from 65.3% in 1996 to 67.8% in 2001, and to 64.8% in 2006.

The proportion of reserve communities with a population size greater than 40 for which there are only population counts available increased from 1.2% in 1996 to 7.7% in 2006.

There was an increase from 1996 to 2006 in the two categories of 2A data and 2D data availability. There was a decrease from 1996 to 2006 in the proportion of small reserves with a population size less than 40 for which only population counts are available, from 24.3% in 1996 to 20.7% in 2006.

As noted above, a closer examination will shed light on the shifts over time. Regional analysis and analysis of the size of these communities will also be examined in Part 2. While the overall data availability for reserve communities has increased over time, the improvement of data quality for individual communities remains a key objective of the 2011 Census. The analysis will be used to help inform efforts to improve data quality.

5.4 Coverage

Throughout the census-taking process, every effort is made to ensure high-quality results. The resulting data, however, are subject to a certain degree of inaccuracy. One inaccuracy is **population coverage error**, the extent to which census data excludes persons who should have been enumerated and includes persons who were enumerated more than once. It is the net of these two errors, **net population undercoverage** that quantifies the net number of persons missed by the census. The Census Data Quality Measurement Program provides users with information on population coverage error.

Coverage error generally occurs during the field collection stage. Undercoverage, for example, results when someone is not listed on the census questionnaire as a usual resident of the dwelling even though the census rules on whom to include and exclude indicate that they should be listed. An example of overcoverage is when children whose parents live in separate households are listed twice, once with each parent. Some living arrangements could result in either undercoverage or overcoverage. Someone, for example, whose employment requires them to live away from their family for a period of time, is at risk of both undercoverage and overcoverage.

It should be noted that persons living in dwellings for which a census questionnaire was never received or in dwellings that were erroneously classified as unoccupied are not examples of undercoverage. This is because census processing includes a step whereby a statistical imputation is performed to estimate the number of persons living in such dwellings.³

3. The statistical imputation is performed through the census processing step called Whole Household Imputation which uses the results of the Dwelling Classification Survey. For more information see Chapter 7 of the **Coverage, 2001 Census Technical Report**, Catalogue no.: 92-394-XIE. Note that the 2006 Technical Report on Coverage will be available in November 2009.

This section presents estimates of census net population undercoverage for 2006 Census tabulations on Aboriginal peoples. Estimates of coverage error for **participating reserves** are derived from the results of two studies, the Reverse Record Check (RRC) and the Census Overcoverage Study (COS), designed to measure census population undercoverage and census population overcoverage respectively. For **incompletely enumerated Indian reserves and Indian settlements**, model-based estimates are presented. Since no reliable source exists to verify the assumptions used in the models, these estimates must be used with caution. Estimates of 2006 Census population coverage error **off reserve for persons with Aboriginal identity** are not available.

5.4.1 Coverage error for participating reserves

The following table gives estimates of 2006 Census net undercoverage for all persons living on participating reserves including those without Aboriginal identity for Canada, for the eastern region (Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec, Ontario) and for the western and northern region (Manitoba, Saskatchewan, Alberta, British Columbia, Yukon Territory, Northwest Territories). Limitations of the coverage studies do not permit the production of estimates by Aboriginal identity. The rate of census net undercoverage indicates what proportion of the entire population that should have been enumerated is, on a net basis, not included in 2006 Census tabulations. Users are advised to consult the standard error of an estimate to determine its suitability for use.

Table 6 2006 Census population net undercoverage 'on reserve',¹ for Canada, Region²

			Canada	East	West and North
Census count ³	Number		342,865	103,590	239,245
Census net undercoverage	Estimated number		40,623	3,645	36,978
	Standard error		6,209	2,621	5,629
	Estimated rate	(%)	10.6	3.4	13.4
	Standard error	(%)	3.4	2.5	2.3
Is net undercoverage statistically different from zero? ⁴			Yes	No	Yes

Notes:

1. 'On reserve'

The 'on reserve' population is defined according to criteria established by Indian and Northern Affairs Canada (INAC). 'On reserve' population includes all people living in legally defined Indian reserves, Indian settlements, other land types created by the ratification of Self-Government Agreements and other northern communities affiliated with First Nations, according to the criteria established by Indian and Northern Affairs Canada. See section 1.3. Estimates for the 22 Indian reserves and Indian settlements that were incompletely enumerated in the 2006 Census are not included.

2. Region

East includes Newfoundland and Labrador, Prince Edward Island, Nova Scotia, New Brunswick, Quebec and Ontario.; West includes Manitoba, Saskatchewan, Alberta and British Columbia.; North includes Yukon Territory and Northwest Territories. There are no reserves in Nunavut.

3. Census count

These data refer to both Aboriginal and non-Aboriginal. They are taken from Statistics Canada. 2008. Aboriginal Identity (8), Area of Residence (6), Age Groups (12) and Sex (3) for the Population of Canada, Provinces and Territories, 2006 Census - 20% Sample Data (table). Topic-based tabulation. 2006 Census of Population. Statistics Canada catalogue no. 97-558-XCB2006006. Released January 15, 2008.

4. Is net undercoverage statistically different from 0?

In some cases, the amount of uncertainty in the estimate from sampling is such that one cannot conclude, statistically, that net undercoverage is different from zero. Users considering including the estimated net undercoverage in an estimate of population should consider this limitation. For example, the standard error for Ontario is large enough to conclude that there is a reasonable chance that the real net undercoverage is zero.

Data quality notes

The standard error provides a measure of the accuracy of the estimates resulting from sampling. The estimates are considered accurate within plus or minus two standard errors 19 times out of 20. This means that there are approximately 19 chances in 20 (95%) that the real national net undercoverage for persons living on reserve falls within the range 28,205 to 53,041 (40,623 + or – two standard errors). Or, there are approximately two chances in three (68%) that the real net undercoverage falls within the range 34,414 to 46,832 (40,623 + or – one standard error).

Sources: Statistics Canada, 2006 Census, 2006 Reverse Record Check and 2006 Census Overcoverage Study.

The estimate of net undercoverage is the estimate of population undercoverage less the estimate of population overcoverage. One limitation of the estimate of overcoverage is that for a particular geography such as participating reserves, the estimate includes persons who appear on questionnaires for two dwellings where at least one of the dwellings is on reserve. The other dwelling may be on the same reserve, on a different reserve, or not on a reserve. Since the Census Overcoverage Study does not determine at which dwelling an individual should have been listed at, the assumption is made that it is equally likely that the individual should have been listed at the first dwelling as at the second dwelling. Therefore, in order to produce estimates of overcoverage, half of the weight for the person is assigned to each dwelling. This concept is important for small domains such as the 'on reserve' population. About half of the overcoverage cases involving a dwelling on reserve also involved a dwelling off reserve.

Data sources

The estimates of 2006 Census population coverage error are derived from 2006 Census data and the results of two studies. The reverse record check (RRC) measures population undercoverage while the Census Overcoverage Study (COS) measures population overcoverage. In the RRC, a random sample of individuals representing the census target population is taken from frames independent of the 2006 Census such as a list of persons enumerated in the last census and a list of intercensal births according to provincial birth registries. Estimates are based on a sample of 3,579 persons in the provinces and a sample of 12,811 persons in the two territories. (Most of these had a weight of one.) The 2006 Census database is searched to determine if these people had indeed been enumerated. When required, a telephone interview was conducted to collect further information to declare the individual as in or not in scope for the census, and when in scope, to provide further data for searching.

Overcoverage is measured by matching the 2006 Census database to a partial list of persons who should have been enumerated, and by matching the 2006 Census database to itself. Persons with Aboriginal identity are in the 2B universe. Therefore, the 2B sampling weights are applied when estimating overcoverage. The COS applies automated exact matching and statistical matching. Statistical matching identifies matches that are close but not exact. Pairs of potential duplicates are sampled and the sampled person's name and demographic characteristics are used to identify the cases of duplication.

For more information on 2001 Census population coverage error, see:

http://www12.statcan.ca/english/census01/Products/Reference/tech_rep/coverage/index.cfm.

5.4.2 Coverage error for incompletely enumerated reserves and settlements

As discussed in section 5.3.2, some Indian reserves and settlements did not participate in the census as enumeration was not permitted, or it was interrupted before completion. In 2006, there were 22 incompletely enumerated reserves. Census data for these areas are not available, and therefore have not been included in any census tabulation.

These areas pose unique problems for the coverage studies and for the population estimates program. The survey population of the reverse record check (RRC) does not include those residents where the census was unable to collect any data. However, Population Estimates Program requires an estimate of the permanent resident population living in these areas. Since neither the census nor the RRC is in a position to produce an estimate of the population living in these areas, a model-based methodology was used. **The resulting estimates should be used with caution as they are based entirely on a model whose assumptions cannot be verified. The validity of these estimates depends on the extent to which the model assumptions capture the true underlying situation.**

The following table gives the national model results.

Table 7 Model estimates for incompletely enumerated Indian reserves and settlements for Canada

	Canada
2001 estimate	34,992
2006 estimated census count	37,605
2006 net undercoverage rate	6.3% ¹
2006 net undercoverage	2,509
2006 population estimate	40,115

Note: These estimates should be used with caution as they are based on a model whose assumptions cannot be verified.

Note:

1. This 2006 net undercoverage rate is different from the rate in section 5.4.1 for participating Indian reserves as it is calculated by dividing the 2006 net undercoverage **for incompletely enumerated Indian reserves for Canada** by its corresponding 2006 population estimate.

Source: Statistics Canada, 2006 Census.

In the 2001 Census, 30 reserves, with approximately 34,500 persons, were classified as 'incompletely enumerated.' Among the 22 reserves and settlements considered as incompletely enumerated in the 2006 Census, six were considered to have had complete enumerations in the 2001 Census while the other 16 were 'incompletely enumerated' or 'refusal.' The 2006 estimates are approximately 7.5% larger than the 2001 estimates.

Estimation model

A two step estimation model was developed to estimate the population. The first step uses a simple linear regression to predict the Census count in 2006. The linear regression was constructed using all Indian reserves that were completely enumerated in both the 2001 and the 2006 Census. The model assumes a linear growth from 2001 to 2006 for all provinces with separate estimates, for the intercept and the regression parameters for each province. The model was evaluated for the basic regression assumptions of independence of errors, homogeneity of variances and normality of errors.

For each incompletely enumerated reserve, the input variable for the regression model was either the actual census count in 2001 or the best predicted census count from the 2001 model. The output of the model was the estimated census count in 2006.

The second step is done to produce consistency with the results of the census coverage studies. An adjustment was made to the estimated 'census' count to account for net undercoverage of all subjected census counts. Net undercoverage for the incompletely enumerated reserves was estimated by calculating the net undercoverage rate for all completely enumerated reserves in each province and then applying that rate to the estimated 'census' count of all the incompletely enumerated Indian reserves in the province. The estimated 'census' count and the 'estimated net missed persons' in each reserve were then summed to create an 'estimated' population for the incompletely enumerated Indian reserves.

For provincial estimates please refer to:

<http://www12.statcan.ca/census-recensement/2006/ref/notes/aboriginal-autochtones-eng.cfm#app3>

6 Comparability

6.1 Historical comparability

The historical comparability of Aboriginal data has been affected by legislative changes such as the amendment to the *Indian Act* of Canada known as Bill C-31, in 1985, and changes in the social environment resulting from legal milestones such as the Powley case⁴ and their impact on reporting changes related to Aboriginal self-identification. These reporting changes refer to people changing, from one census to the next, the reporting of their Aboriginal affiliations from non-Aboriginal to Aboriginal affiliations as well as from Aboriginal to non-Aboriginal affiliations. (Guimond, 2003; Siggner and Costa, 2005 ethnic mobility).^{5,6}

As well, over time there have also been some changes in the questions asked, their wording, format and examples used in the census. However, three of four Aboriginal questions in the census have remained unchanged in the past three censuses (1996, 2001 and 2006) with the exception of examples used in some questions, and the changes in the ancestry question.

The following are the principle factors that can affect the comparability of Aboriginal census data over time:

- population missed in incompletely enumerated Indian reserves and settlements;
- undercoverage of the population in participating reserves and settlements and undercoverage of the off reserve Aboriginal population;
- changes in the format and wording of the questions.

6.1.1 Population missed in incompletely enumerated Indian reserves and settlements

Some Indian reserves and settlements did not participate in the census as enumeration was not permitted or it was interrupted before completion. In 2006, there were 22 incompletely enumerated reserves or settlements, down from 30 in 2001 and 77 in 1996.

In 1996, an estimated 43,566 persons were missed as a result of incompletely enumerated reserves and settlements. This decreased to 34,500 in 2001, and increased to an estimated 40,115 in 2006.

Data showing changes between censuses can be adjusted to include only reserves enumerated in the censuses being compared. This approach was followed in the dissemination report on the Aboriginal population from the 2006 Census **Aboriginal Peoples in Canada in 2006: Inuit, Métis and First Nations, 2006 Census**

<http://www12.statcan.ca/english/census06/analysis/aboriginal/index.cfm>

For the lists of incompletely enumerated reserves, please refer to <http://www.statcan.ca/english/census96/appnd1.html> for the 1996 list; to <http://www12.statcan.ca/english/census01/Meta/indres.cfm> for the 2001 list, and to <http://www12.statcan.ca/census-recensement/2006/ref/notes/aboriginal-au'tochtones-eng.cfm> for

4. Métis Rights – Powley

<http://www.ainc-inac.gc.ca/ai/ofi/mns/pwy-eng.asp>

5. Guimond, Eric. 2003. 'Fuzzy definitions and population explosion: changing identities of aboriginal groups in Canada,' in D. Newhouse and E. Peters (eds.), *Not strangers in these parts: Urban aboriginal peoples*. Ottawa, ON: Policy Research Initiative.

6. Siggner, Andrew J. and Costa, Rosalinda. (2005). *Aboriginal Conditions in Census Metropolitan Areas, 1981-2001*. Statistics Canada Catalogue number 89-613-MIE - No. 008.

the 2006 list. Note that each of these links provides a table listing the incompletely enumerated reserves for that particular census and also provides the population counts for previous censuses, when available.

6.1.2 Undercoverage of population in participating Indian reserves and settlements and undercoverage of the off reserve Aboriginal population

Undercoverage occurs when persons or dwellings are missed during enumeration. Persons can be missed when dwellings are missed or when there is a misunderstanding about whom to include on the questionnaire.

In 2006, it is estimated that the net undercoverage of the population living in participating Indian reserves and settlements is 40,623 persons or 10.6%, compared to 2.7% of net undercoverage for the total Canadian population in the 2006 Census.

The undercoverage of the off reserve Aboriginal population for 2006 is not available at this time and will be included in part 2 of this report.

6.1.3 Changes in the format and wording of questions

Presently, there are four questions used in the census to identify Aboriginal peoples: ethnic origin/ancestry; Aboriginal identity; registered or treaty Indian; and member of an Indian band or First Nation. With the exception of the ethnic origin/ancestry question, the other questions have remained unchanged in the 1996, 2001 and 2006 censuses but there were minor changes to examples used in the questions. In terms of question wording or format, the Aboriginal data from the 1996, 2001 and 2006 censuses are comparable as no changes have been made to these questions. There are other factors which can affect comparability of the data such as changes in the social environment and these are discussed below. As well, a brief overview of the question changes prior to 1996 is included to provide a larger context to understanding the data over time.

6.1.3.1 Ethnic origin (ancestry)

An ethnic origin question has been asked in the census since 1871. However, the question has undergone several changes over the years. The areas that underwent changes involved the criteria used to determine ethnic origin or ancestry, the terminology used to designate Aboriginal peoples, as well as changes to the question itself, and to the way the data have been collected. For more details see: How Statistics Canada Identifies Aboriginal Peoples, <http://www.statcan.ca/bsolc/english/bsolc?catno=12-592-X>.

The concept of ethnicity is fluid and is probably the most complex concept measured in the census. Respondents' understanding or views about ethnicity (ancestry) and awareness of their family background affect the reporting of ethnicity (ancestry) from one census to another. Increasing intermarriage among various groups has led to an increase in the reporting of multiple origins (ancestries), which has added to the complexity of the ethnic (ancestry) data. Furthermore, reporting patterns are affected by changes in the format and wording of the question, as well as changes in the examples provided on the question.

Thus the historical analysis of ethnic origin data is affected by these factors, as well as by changes in the social environment at the time of the census.

6.1.3.2 Aboriginal identity

An Aboriginal identity question was first included in the census long form questionnaire in 1996.⁷ This same question was also asked in the 2001 and 2006 censuses.

Note that in the 1996, 2001 and 2006 censuses, the total Aboriginal identity counts were derived using three questions (questions 18, 20 and 21), that is by including those persons who reported that they identify with at least one Aboriginal group, i.e., North American Indian, Métis or Inuit and/or those who reported being a Registered Indian or Treaty Indian as defined by the *Indian Act* of Canada, and/or those persons who were members of an Indian Band or First Nation.

In terms of question wording or format, the Aboriginal identity data from the 1996, 2001 and 2006 censuses are comparable as no changes have been made to this question.

However, caution should be exercised in analyzing trends in Aboriginal identity based on data from previous censuses. Although the data have not been affected by changes in the question, the growth in the census counts of the Aboriginal identity population has been affected by both demographic factors (birth, deaths and migration) and non-demographic factors such as reporting changes in those identifying as Aboriginal and by the relative number of incompletely enumerated Indian reserves and settlements.

6.1.3.3 Registered or Treaty Indian

The information on Indian legal status was collected in the census for the first time in 1981 as a sub-question of the ethnic origin question. It has been collected as a separate question since 1991. The decision to separate the concept of ancestry from that of Indian status was due to recognition that the latter is one's legal status in relation to the *Indian Act*, rather than one's ancestral origins.

Furthermore, the wording of the 1996 Census question on Registered or Treaty Indian differed slightly from the one used in previous years. Prior to 1996, the term 'Treaty Indian' did not appear in the question. It was added in 1996 at the request of individuals from the Western provinces, where the term 'Treaty Indian' is more widely used than the term 'Registered Indian.' It was felt that this change would make the question more understandable to those Registered or Treaty Indians living in the west.

In terms of question wording or format, the Registered or Treaty Indian data from the 1996, 2001 and 2006 censuses are comparable.

The Registered or Treaty Indian counts from the census are different from those obtained from the Indian Register which is maintained by Indian and Northern Affairs Canada, the details of these differences are covered in section 6.2 Comparability with Indian Register.

6.1.3.4 Member of an Indian band or First Nation

This question asks respondents if they are members of an Indian band or First Nation and if yes, to indicate the name of the Indian band or First Nation.

Information on membership of an Indian band was first collected in 1991 as a sub-element of the Registered Indian question. In the first part of the question, respondents were asked about Indian status, while the second part of the question dealt with Indian band membership.

7. An Aboriginal identity question was first asked on the 1986 Census short questionnaire (Form 2A) which was distributed to all households (100% sample). The results were not published due mostly to problems resulting from misunderstandings of the terminology by the non-Aboriginal population. In 1991, another Aboriginal identity question was tried again, not in the census, but within the first Aboriginal Peoples Survey.

In 1996, a separate question was developed to collect data on Indian band/First Nation membership, many Indian bands having elected to call themselves a First Nation and having changed their band name to reflect this.

In addition, with the 1985 amendment to the *Indian Act* of Canada (Bill C-31), many Indian bands exercised the right to establish their own membership code, whereby it was not always necessary for a band member to be a Registered Indian.

The historical comparability of Indian band or First Nation membership data has thus been affected by these factors, and the data should be used with caution. Data on Indian band membership are also available from the Indian Register and there are differences in the Indian band population counts from the census and the Indian Register, due to the incomplete enumeration of some Indian reserves as well as methodological, conceptual and collection differences between the census and the Indian Register.

**Table 8 Census questionnaire¹ content and derived variables since Confederation
Aboriginal characteristics**

Content	First time in census (before 1971)	1971	1976	1981	1986	1991	1996	2001	2006
Ethnic Origin	1871	X	-	X	X	X	X	X	X
Aboriginal identity – 2A form ²	-	-	-	-	X	-	-	-	-
Registered Indian/Treaty Indian	-	-	-	-	-	X	X	X	X
Indian band/First Nation	-	-	-	-	-	X	X	X	X
Aboriginal identity	-	-	-	-	-	-	X	X	X
Aboriginal identity (derived) ³	-	-	-	-	-	-	X	X	X

- not applicable

x applicable

Notes:

1. The Aboriginal questions appear in the long questionnaire (Form 2B or 2D), except for the 1986 identity question. Form 2B is distributed to 1 in 5 households (20% sample), and Form 2D is administered to all households in northern areas (with the exception of Whitehorse and Yellowknife) and almost all Indian reserves.
2. An Aboriginal identity question was first asked in the 1986 Census short questionnaire (Form 2A) in response to concerns from Aboriginal groups that an individual's ancestry does not necessarily reflect his or her feelings of belonging to a specific group as well as concerns related to census sampling techniques. It was felt that an Aboriginal identity question should be asked on the short questionnaire (100% sample) that was administered to every household and not just in the long questionnaire that was administered to only 1 in 5 households (20% sample). A misunderstanding of the term 'Aboriginal' by non-Aboriginal persons resulted in very high counts for Inuit and the results of this question were not made public, instead released counts for the Aboriginal population from the 1986 Census were based on ancestry.

3. The derived identity counts include persons who reported one or more Aboriginal identity groups (North American Indian, Métis or Inuit) to question 18, and/ or reported being a registered or treaty Indian (question 20) and/or reported being a member of an Indian band/First Nation (question 21) without reporting an Aboriginal identity (question 18).

Source: Statistics Canada, 2006 Census Dictionary, Appendix A.

6.2 Comparability with the Indian Register

The Census of Population from Statistics Canada and the Indian Register maintained by Indian and Northern Affairs Canada are the two principle sources of demographic data on the registered (or status) Indian population. The registered Indian population is a component of the Aboriginal population (derived variable). Registered Indian refers to those persons who reported they were registered under the *Indian Act* of Canada, irrespective of their Aboriginal affiliation.

The census is a self-administered survey that is taken every 5 years. It is a snapshot of the population at a moment in time--most recently on May 16, 2006. The Indian Register is a continuous statutory administrative file based on the registration of individuals who meet specific criteria as defined by the *Indian Act*.

The different purposes, as well as methodological and conceptual differences between the Indian Register and the census often result in differences in counts for the registered Indian population from each of the data sources.

The recorded count of registered Indians from the census, on May 16, 2006, is 623,780 compared to 755,940 from the Indian Register, on May 31, 2006.

The census count is affected by:

- Undercount of registered Indians living on incompletely enumerated reserves where enumeration is not permitted, or was interrupted before it could be completed
- Undercoverage of registered Indians living on participating reserves and settlements
- Undercoverage of registered Indians living off reserve.

The census does not collect data on registered Indians living in institutions (for example, hospitals, senior citizens' homes, jails, shelters, etc.); as well as registered Indians living outside of the country on census day.

Note that the estimated counts of registered Indians missed in the census will be available in the second part of the Technical Report.

The Indian Register count is affected by:

- late reporting of births and deaths
- underreporting of births and deaths, especially deaths.

In the Indian Register there is a reporting lag between the occurrence of an event and it being reported and recorded in the Indian Register.

Adjustments to both the Census and the Indian Register will result in a much smaller difference in counts between the two sources.

More research and information on these adjustments will be available in Part 2 of the Technical Report.

